

		Street traffic	Party atmosphere
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Any other information which might be helpful to police

IMMEDIATE ACTIONS in the event of an emergency

FLOOD

- Isolate power to low lying electric motors / installations
- Move mobile plant to higher ground if safe and possible
- Move fuel, oils, additives and any other substances that could contaminate the environment to higher ground
- Move stores, spare parts and documents to a secure place

STRUCTURAL DAMAGE

- Structural damage may be caused by an accident on site involving mobile equipment or from deterioration
- Assess the damage.
- If there is a possibility of collapse or if the situation presents a danger to personnel then the plant is to cease operating and the immediate area is to be evacuated
- Advise the appropriate personnel and flag out affected area if safe to do so, to restrict unauthorised access.
- Initiate repairs as soon as practicable

SPILLAGE

- Spillage may occur on site for various reasons, eg., accidents involving mobile equipment, poor or incorrect handling techniques or container deterioration and may involve fuels, oils or additives
- Refer to the relevant material safety data sheet for safe and correct containment / clean-up procedures
- Take action to contain the spill immediately in accordance with these procedures. Shut off source if safe or possible to do so
- Ensure that personnel are not put at risk of exposure to toxic / dangerous substances



- Ensure that the appropriate action is taken to avoid contamination of the environment
- Advise Environmental Manager and relevant Manager

IMMEDIATE ACTIONS in the event of an emergency

EXPLOSION

- Cut power supply and fuel source if safe to do so.
- Advise emergency services immediately
- Ensure personnel are safe from danger by initiating emergency procedures

ALWAYS BE PREPARED FOR EMERGENCIES – MAKE SURE YOU KEEP YOUR SITE UP TO DATE, USE THE FOLLOWING REGULAR CHECKS



- Items blocking access to fire appliances
- Emergency procedure amended and up to date - amendments entered
- Emergency procedure in a prominent position for employee reference
- All employees attended emergency lectures and evacuation drills
- New employees introduced to procedures
- Emergency PA and/or communications means available and audible
- Contractors / Tradespeople and Visitor Procedures being adhered too; including Hot Work procedures
- Gas cylinders stored correctly and fittings in safe working order
- Empty gas cylinders removed and replaced
- All emergency equipment in safe working condition
- All areas free of non-essential items and rubbish
- First aid kits complete with all required contents



Appendix 16

Summary of Objectives and Criteria relating to the Environmental Impacts

Summary of Objectives and Measurement Criteria Linwood Quarry

6.1 Potential Impact - *Noise (other than Blasting)*

Objective

Compliance with maximum permissible noise levels imposed by the Environment Protection (Industrial Noise) Policy 1994.

Measurement Criteria

The noise levels emanating from the operation will be monitored by a noise expert bi-annually (or as required) at the specified monitoring locations to demonstrate that noise from the site do not exceed at any time the Environment Protection (Industrial Noise) Policy 1994 for a residential area with some manufacturing industry, currently 58dB maximum between 7.00am – 10.00pm and 50dB between 10.00pm – 7.00am.

Noise measurements will be undertaken during a 24 hour period consisting of:

- Noise logging to provide a continuous measure of the overall noise levels adjacent to the residences
- Manual noise measurements to determine the contribution of noise from the operations at the quarry to the overall noise levels logged. The measurements will taken by a trained representative of the mutually agreed noise expert at the measurement location for the entire 24 hour period.
- A report with the findings shall be submitted to PIRSA upon completion.

A complaints register is maintained detailing any noise complaints received (other than blasting) and noise monitoring is undertaken on an "as required basis" in response to these complaints. If it is concluded that the source of the noise is the quarry or the operations within the quarry, a noise improvement program will be submitted and actioned and additional measurements made to prove that the noise is below the permissible noise levels.

6.2 Potential Impact – *Dust (other than blasting)*

Objective

Mitigate dust impacts to a reasonable level for employees and nearby residents

Measurement Criteria

The dust levels emanating from the operation, continuously measured at specified monitoring points outside the operations boundaries using DustTrak real time technology (or as mutually agreed) in accordance with relevant standards.

The criteria will be measured in two stages:

1. PM10 does not exceed $50 \mu\text{g}/\text{m}^3$ on more than 10 days per year for the first two years (upon completion of real time monitor network)

(The standard NEPM air quality level for fine particle PM10 is $50 \mu\text{g}/\text{m}^3$ averaged over a 24 hour period with five accident days allowed per year)

2. A commitment to improvement after the initial two year period

If at anytime, dust monitoring exceeds the above levels, then Boral will investigate the source of the dust. If it is concluded that the source of the dust is the quarry, a dust improvement program will be submitted and actioned.

In the case of a 24 hour average exceedance Boral will notify PIRSA in writing.

6.3 Potential Impact – *Blasting (Noise, Dust and Vibration)*

Objective

No unacceptable public health and /or nuisance impacts from airblast, flyrock and ground vibration caused by blasting undertaken in the quarry.

Measurement Criteria

All blasting at the site will be monitored for noise and ground vibration levels at appropriate monitoring points on or as close to the quarry boundary as possible. Four monitors will aim to form part of this network and their location will not change (refer to blast monitor locations in Appendix 12).

Additional monitors are available to be located in individual residences upon request and are normally located in one or more residences. They provide an indicative reading of the noise and vibration at that residence.

The criteria in relation to air-blast overpressure and ground vibration that we undertake to meet is the criteria set out in the current standard AS2187.2 (2006), Appendix J. The criteria used is that which applies to limit the impact of blasting from the point of view of human comfort rather than the less stringent limits set to limit damage to structures including houses.

The criteria are set out in Tables J4.5 (A) and J5.4 (A) in Appendix J of AS2187.2 (2006) and the values that will be applied are those values applying to a **Sensitive Site**.

Monitors established within the quarry boundaries will be used to measure the levels of air-blast overpressure and ground vibration and if the readings are below the lower limits set out in the tables referred to above, then that blast will be taken to comply with the standards. If the readings are higher than the lower limits then we shall use an independent technical expert acceptable to PIRSA to extrapolate the actual readings we have, to provide an estimated value for the readings applying at the nearest residences which are the sensitive sites. Actual readings from specific residence if available will be used to assist in the extrapolation process. Where the extrapolation process indicates that the noise or vibration levels would definitely be over the limits then that blast will be taken to have exceeded the limits.

Achieving the criteria in the Australian Standard AS2187.2 – 2006 (qualified in one part below) as measured at the **Sensitive Sites** will confirm the meeting of this objective.

The criteria are as follows:

- The Peak Sound Pressure level of 115dBL for 95% of the blasts in a year and a maximum limit of 120dBL. (Table J5.4(A)AS2187.2)
- A maximum peak component particle velocity of 5mm/s for 95% of the blasts per year and a maximum of 10mm/s. (Table J4.5(A) AS2187.2-2006)

Records of the blast monitoring are kept on site and also forwarded to PIRSA/CIM and the relevant Inspector of Mines within 24 hours of the blasting. (An example of a blast monitoring record is attached and a photograph of the set blast monitoring points within the quarry is contained in Appendix 12).

If at anytime, blast monitoring exceeds the above levels at the Sensitive Sites, then Boral will investigate the blast and implement a blast improvement program.

Complaint records related to blasting are kept on site. All complaints from the public related to blasting at the quarry are documented and investigated by the Quarry Manager and/or Operations Manager and the records of any actions resulting from these investigations are maintained.

6.4 Potential Impact– *Visual Effects*

Objective

The quarry operations will not be visible to residents of Hallet Cove and Marino unless screening would impact on sea views of residents.

Measurement Criteria

Records of visual inspections and photographs taken annually from vantage points on Perry Barr Road and Lonsdale highway will be made to demonstrate the progressive screening of the operations at the site.

6.5 Potential Impact Event – *Vegetation Clearance and Disturbance*

Objective

None set as no impact has been identified.

Measurement Criteria

None Set

6.6 Potential Impact – *Habitat Clearance or Disturbance*

Objective

None set as no impact has been identified.

Measurement Criteria

None Set

6.7 Potential Impact – *Weed and Pathogen Management*

Objective:

No new or introduced weed and pathogen species will be introduced within the mine site and the surrounding area under our control as a result of the quarrying operations.

Measurement Criteria

Flora surveys will be taken annually to prove that weed and plant pathogens levels are at or below the levels of the surrounding areas (if any weed and/or pathogens are identified during inspections)

6.8 Potential Impact – *Silt and Stormwater*

Objective

Silt and storm water (including stockpile areas and roadways will be captured and retained within the quarry site.

Measurement Criteria

A survey of the boundaries will be made initially to identify any potential discharge points and after a significant rainfall event and in any case annually these points will be checked to ensure that no silt is leaving the site.



A significant rainfall event is one which by its intensity or duration has the potential to cause erosion. To give some guidance a 15 minute down pour of 12 to 15 mm or 30mm over night are indicative of a significant rainfall event.

6.9 Potential Impact – *Erosion*

Objective

None set as no impact has been identified.

Measurement Criteria

None Set

6.10 Potential Impact – *Topsoil Management*

Objective

The quality and quantity of all available topsoil will be preserved.

Measurement Criteria

Constant monitoring and measurement of any topsoil stockpile areas for erosion.

6.11 Potential Impact – *Waste Management*

Objective

No contamination and pollution either on or off site caused by waste products and hazardous material

Measurement Criteria

Regular waste disposal from the site (putrescible waste, oil, tyres, hazardous materials, etc.) are disposed of in accordance with EPA requirements.

Records are maintained of waste (asphalt and concrete) receipt, storage and processing in accordance with the EPA licence

6.12 Potential Impact – *Groundwater*

Objective

None set as no impact has been identified.

Measurement Criteria

None Set

